IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Daniel E. Ford, et al.	Examiner: Liang Che A. Wang	
Serial No.:	09/779,390	Group Art Unit: 2155	
Filed:	February 7, 2001	Docket No.: 10007261-1	
Title:	System and Method for Accessing Software Components on a Distributed Network Environment		

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is filed in response to the Final Office Action mailed February 6, 2007 and Notice of Appeal filed on April 5, 2007.

AUTHORIZATION TO DEBIT ACCOUNT

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's deposit account no. 08-2025.

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Appeal Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 – 21 stand finally rejected. The rejection of claims 1 – 21 is appealed.

IV. STATUS OF AMENDMENTS

No amendments were made after receipt of the Final Office Action. All amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element or that these are the sole sources in the specification supporting the claim features.

The Summary of the Invention provides the following summary: The present invention is broadly directed to a system and method for accessing software components, interfaces, or resources in a distributed network environment. A distinctive feature of the invention is its ability to locate such components, interfaces, or resources based upon certain specified attributes, and without having prior knowledge of the address or location of the component, interface, or resource (see p. 5, lines 21-25).

Claim 1

In a distributed computer network having at least one service consumer (see e.g., ref. num. 214 and related description) and at least one service provider (see e.g., ref. num. 212 and related description), a method for locating a remote software component by a service consumer (see e.g., ref. num. 214 and related description) comprising:

generating (see e.g., ref. num. 252 and related description) a request for identification of a component having at least one specified attribute (see e.g., ref. num. 230 and related description) that describes a service performed by the component (see e.g., p. 12, lines 5-14 plus related description);

broadcasting (see e.g., ref. num. 220 and related description) the request across the network (see e.g., ref. num. 216; p. 12, lines 15-16 plus related description);

receiving (see e.g., ref. num. 262 and related description) the request (see e.g., ref. num. 220 and related description) at a service provider (see e.g., ref. num. 212; p. 15, lines 10-11 plus related description);

comparing (see e.g., ref. num. 264 and related description) the at least one specified attribute (see e.g., ref. num. 230 and related description) of the received request with component attributes (see e.g., ref. num. 230 and related description) of the service provider (see e.g., ref. num. 212 and related description) to identify a matching component (see p. 15, line 10 – p. 16, line 22 plus related description); and

communicating a response (see e.g., ref. num. 240 and related description) by the service provider to the requesting service consumer (see e.g., ref. num. 214 and related description), wherein the response indicates a location of the requested component associated with the service provider (p. 16, lines 1-17).

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Claim 4

The method as defined in claim 1, wherein the step of broadcasting the request utilizes a multicast protocol for broadcasting the request across the network (p. 14, line 16 – p. 15, line 9).

Claim 12

A distributed computer network for accessing a remote software component (Fig. 2, p. 10, line 15 – p. 11, line 18 plus related description) comprising:

at least one service consumer (see e.g., ref. num. 214 and related description);

at least one service provider (see e.g., ref. num. 212 and related description);

means (see e.g., ref. num. 250/252 and related description) for generating a request (see e.g., ref. num. 220 and related description) at a service consumer (see e.g., ref. num. 214 and related description) for a component having at least one specified attribute (see e.g., ref. num. 230 and related description) that describes a service performed by the component (see e.g., p. 12, lines 5-14 plus related description);

means for broadcasting the request (see e.g., ref. num. 220 and related description) across the network (see e.g., ref. num. 216 p. 12, lines 15-16 plus related description);

means (see e.g., ref. num. 260/262 and related description) for receiving the request (see e.g., ref. num. 220 and related description) at a service provider (see e.g., ref. num. 212; p. 15, lines 10-11 plus related description);

means (260/264) for comparing the at least one specified attribute (see e.g., ref. num. 230 and related description) of the received request (see e.g., ref. num. 220 and related description) with component attributes of the service provider (see p. 15, line 10 – p. 16, line 22 plus related description); and

means (see e.g., ref. num. 260/266 and related description) for communicating a response (see e.g., ref. num. 240 and related description) to the requesting service consumer (see e.g., ref. num. 214 and related description), wherein the response indicates an identification of the requested component associated with the service provider (p. 16, lines 1-17).

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Claim 20

A distributed computer network for locating a remote software component (Fig. 2, p. 10, line 15 – p. 11, line 18 plus related description) comprising:

at least one service consumer (see e.g., ref. num. 214 and related description);

at least one service provider (see e.g., ref. num. 212 and related description);

a mechanism configured to generate a request (see e.g., ref. num. 252 and related description) at a service consumer (see e.g., ref. num. 214 and related description) for an identification of a component having a least one specified attribute (see e.g., ref. num. 230 and related description) that describes a function performed by the component (see e.g., p. 12, lines 5-14 plus related description);

a mechanism configured to broadcast the request (see e.g., ref. num. 220 and related description) across the network (see e.g., ref. num. 216 p. 12, lines 15-16 plus related description);

a mechanism configured to receive the request(see e.g., ref. num. 220 and related description) at a service provider (see e.g., ref. num. 212; p. 15, lines 10-11 plus related description);

a mechanism configured to compare the at least one specified attribute (see e.g., ref. num. 230 and related description) of the received request (see e.g., ref. num. 220 and related description) with component attributes of the service provider to identify a matching component (see p. 15, line 10 – p. 16, line 22 plus related description); and

a mechanism configured to communicate a response (see e.g., ref. num. 240 and related description) by the service provider to the requesting service consumer (see e.g., ref. num. 214 and related description), wherein the response indicates an identification of the requested component associated with the service provider (p. 16, lines 1-17).

Claim 21

In a distributed computer network having at least one service consumer (see e.g., ref. num. 214 and related description) and at least one service provider (see e.g., ref. num. 212 and related description), a method for locating remote software components by a service consumer comprising:

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generating (see e.g., ref. num. 252 and related description) a request (see e.g., ref. num. 220 and related description) for an identification of a component having at least one specified attribute (see e.g., ref. num. 230 and related description) that describes a service performed by the component (see e.g., p. 12, lines 5-14 plus related description);

broadcasting (see e.g., ref. num. 220 and related description) the request across the network (see e.g., ref. num. 216: p. 12, lines 15-16 plus related description);

receiving (see e.g., ref. num. 262 and related description) the request (see e.g., ref. num. 22o and related description) at each of a plurality of service providers on the network (see e.g., ref. num. 212: p. 15, lines 10-11 plus related description);

comparing (see e.g., ref. num. 264 and related description), at each of the plurality of service providers (see e.g., ref. num. 114, 126, 136, 212 and related description), the at least one specified attribute (see e.g., ref. num. 230 and related description) of the received request (see e.g., ref. num. 220 and related description) with component attributes of the service provider to identify a matching component (see p. 15, line 10 – p. 16, line 22 plus related description); and

communicating, from each of the plurality of service providers, a response (see e.g., ref. num. 240 and related description) to the requesting service consumer (see e.g., ref. num. 214 and related description), wherein the response indicates an identification of the requested component associated with the service provider (p. 16, lines 1-17).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-10, 12-14, 17-21 are rejected under 35 USC § 102(b) as being anticipated by USPN 4,914,571 (Baratz).

Claims 11 and 16 are rejected under 35 USC § 103(a) as being unpatentable over Baratz in view of USPN 6,889,254 (Chandra).

VII. ARGUMENT

The rejection of claims 1 – 21 is improper, and Applicants respectfully requests withdraw of these rejections.

The claims do not stand or fall together. Instead, Applicants present separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-heading as required by 37 C.F.R. § 41.37(c)(1)(vii).

Claim Rejections: 35 USC § 102(b)

Claims 1-10, 12-14, 17-21 are rejected under 35 USC § 102(b) as being anticipated by USPN 4,914,571 (Baratz). These rejections are traversed.

The independent claims recite numerous recitations that are not taught or even suggested in Baratz. Arguments for claim 1 are provided below.

Argument 1

By way of example, independent claim 1 recites generating a request for a component having at least one specified attribute that "describes a service performed by the component."

In Baratz, each network node maintains a directory about resources that reside at the end nodes. This directory includes a list of "resource names" at the node (see 4: 1-7). In order to locate a resource, a broadcast search is performed. The broadcast includes a GDS variable and search argument (see Baratz at 12: 16-24). The GDS variable "provides the destination node and origin NN series ..." (see Baratz at 14: 30-35). The search argument contains several bits that specify length, key, resource type, and resource name (see Baratz at Figs. 7A-7D: 15: 19-23 and 16: 43-49). Nowhere does Baratz teach that the broadcast includes an attribute that "describes a service performed by the component." Instead, the broadcast in Baratz includes bits that identify a resource type and resource name. A service performed by the resource is not identified in the broadcast.

In other words, claim 1 recites generating a request that describes a service performed by the component being requested. With regard to the rejection, the issue is

stated as follows: Does the broadcast in Baratz "describe a service" being requested?
Baratz does not.

Baratz is directed to finding resources in a computer network. In order to find
resources in Baratz, nodes maintain directory information of the resources that are served
by the node. Baratz states that this directory information is the name of the resource:
"This done by system definition (sysdef), either of all of the resource names or of the
EN's status as an authorized node ..." (see Baratz at col. 4, lines 1-8). Thus, Baratz uses
the "resource name" to locate resources served by a node. Nowhere does Baratz state that
the nodes maintain a description of services of the nodes. Again, claim 1 recites that the
request "describes a service" performed by the component being requested.

A significant difference exists between sending a request that describes a service
(i.e., claim 1) and sending a request that includes a resource name (i.e., Baratz).

Anticipation under section 102 can be found only if a single reference shows
exactly what is claimed (see *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227
U.S.P.Q. 773 (Fed. Cir. 1985)). For at least these reasons, the claims are allowable over
Baratz.

Response to Examiner's Arguments

The Examiner argues that "Baratz teaches Byte 4, bit 0 of the broadcasted
LOCATE message, is an indicator that indicates (describes) if the directory service
(service) is completed" (see final OA at p. 2 arguing col. 12, lines 44-48 in Baratz).
Applicants respectfully disagree with this interpretation of Baratz.

In Baratz, nodes send a LOCATE message to each other in an effort to locate a
resource. Figure 2 in Baratz shows the format of this LOCATE message (see Baratz at
col. 12, lines 5-8). Figure 4 in Baratz shows further detail of this LOCATE message.
Column 12, lines 37-68 in Baratz discuss the contents of each byte/bit in the LOCATE
message of Figure 4.

Baratz expressly states that byte 4, bit 0 is a Procedure Status Indicator used to
signal the end of the procedure (col. 12, lines 44-45). This indicator is reset to indicate
that the directory service is complete. Nowhere does Baratz state that byte 4, bit 0
"describes a service" performed by the component being requested. Again, byte 4, bit 0

merely indicates when the service is complete. Indicating when a service is complete is very different than describing a service being requested.

Applicants respectfully argue that the claim recitation stating a request that "describes a service performed by the component" should be construed in context of the entire claim. In other words, claim 1 also recites that this request is compared with attributes of a service provider to identify a match and communicate a location of the requested component. By contrast, byte 4, bit 0 in Baratz is not further compared with attributes of a service provider to identify a match and then communicate a location of the requested component. In Baratz, byte 4, bit 0 merely indicates when the service is complete. It is not used to identify a matching service and communicate a location of this service.

Thus, the Examiner's argument (i.e., that Baratz's byte 4, bit 0 teaches a request that describes a service performed by a component be requested) does not make sense when this argument is placed in context of the language of claim 1.

Argument 2

Claim 1 recites generating a request having an attribute that describes a service performed by the component being requested. This attribute (i.e., having the description of service performed by the component) is compared with attributes of a service provider to identify a matching component. Baratz does not teach these elements.

The Examiner argues that the attribute (i.e., having the description of service performed by the component) of claim 1 is taught in byte 4, bit 0 of the LOCATE message in Baratz. As noted, byte 4, bit 0 in Baratz is an indicator that indicates when the service procedure is complete. This indicator is not compared with other attributes of a service provider to identify a matching component. No comparison is made with this indicator in Baratz. Again, the indicator at byte 4, bit 0 indicates when the service procedure is complete. It is not compared with an attribute of a service provider to identify a matching component as recited in claim 1.

For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference (see *In re Bond*, 910

F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990)). For at least these reasons, the claims are allowable over Baratz.

Claim 4

Claim 4 recites that the request is broadcast using a "multicast protocol" across the network. Multicast protocol is a specific way to broadcast messages across a network. Applicants' specification discusses in detail multicast broadcasting (see Applicants' specification at p. 14, line 16 – p. 15, line 9).

The Examiner cites Baratz at col. 20, lines 58-60 for allegedly teaching multicast broadcasting. This section of Baratz states that "a broadcast as described above is sent to all servers in the network ...." Baratz never states that the broadcast is multicast. Many different ways exist for broadcasting messages to all servers.

Anticipation is established only when a single prior art reference discloses each and every element of a claimed invention united in the same way (see *RCA Corp. v. Applied Digital Data Systems, Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984)). For at least these additional reasons, claim 4 is not anticipated by Baratz.

Claim Rejections: 35 USC § 103(a)

Claims 11 and 16 are rejected under 35 USC § 103(a) as being unpatentable over Baratz in view of USPN 6,889,254 (Chandra). This rejection is traversed.

As noted above, Baratz does not teach or suggest all the elements of the independent claims. Chandra fails to cure these deficiencies. Dependent claims 11 and 16 depend from independent claims 1 and 12, respectively. Thus, for at least the reasons provided in connection with independent claims 1 and 12, respective dependent claims 11 and 16 are allowable over Baratz in view of Chandra.

CONCLUSION

In view of the above, Applicants respectfully request the Board of Appeals to reverse the Examiner's rejection of all pending claims.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. 832-236-5529. In addition, all correspondence should continue to be directed to the following address:

Hewlett-Packard Company
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

Respectfully submitted,

/Philip S. Lyren #40,709/

Philip S. Lyren
Reg. No. 40,709
Ph: 832-236-5529

VIII. Claims Appendix

1. In a distributed computer network having at least one service consumer and at least one service provider, a method for locating a remote software component by a service consumer comprising:

generating a request for identification of a component having at least one specified attribute that describes a service performed by the component;

broadcasting the request across the network;

receiving the request at a service provider;

comparing the at least one specified attribute of the received request with component attributes of the service provider to identify a matching component; and

communicating a response by the service provider to the requesting service consumer, wherein the response indicates a location of the requested component associated with the service provider.

2. The method as defined in claim 1, wherein the remote software component is selected from the group consisting of: a service, a resource, an interface, and a program segment.

3. The method as defined in claim 1, further including the step of formulating a service descriptor that describes attributes for components at the service provider, the service descriptor being an object that specifies the at least one specified attribute.

4. The method as defined in claim 1, wherein the step of broadcasting the request utilizes a multicast protocol for broadcasting the request across the network.

5. The method as defined in claim 1, wherein the network is a local area network.

6. The method as defined in claim 1, wherein the network is a wide area network.

7. The method as defined in claim 1, wherein the step of communicating a response utilizes a unicast protocol.

8. The method as defined in claim 1, further including the step of formulating a response by the service provider, the response includes an identification of a network location of the service provider.

9. The method as defined in claim 8, further including the step of directly requesting the component from the service provider by the service consumer, in response to the response received by the service consumer.

10. The method as defined in claim 8, wherein the step of formulating a response further includes associating response code for interfacing with the requested component, without requiring a driver to be separately installed on the service consumer.

11. The method as defined in claim 10, wherein the response code for interfacing with the requested component is Java code in a form of a stub object.

12. A distributed computer network for accessing a remote software component comprising:

        at least one service consumer;

        at least one service provider;

        means for generating a request at a service consumer for a component having at least one specified attribute that describes a service performed by the component;

        means for broadcasting the request across the network;

        means for receiving the request at a service provider;

        means for comparing the at least one specified attribute of the received request with component attributes of the service provider; and

        means for communicating a response to the requesting service consumer, wherein the response indicates an identification of the requested component associated with the service provider.

13. The system as defined in claim 12, further including means for generating the

response.

14. The system as defined in claim 13, wherein the means for generating the response is configured to include within the response a mechanism for identifying a network location for the component.

15. The system as defined in claim 13, wherein the means for generating the response is configured to include within the response a code segment that allows the service consumer that generated the request to interface with the component without having a separately installed driver on the service consumer.

16. The system as defined in claim 15, wherein the code segment includes Java code in a form of a stub object.

17. The system as defined in claim 13, wherein the means for broadcasting the request includes a multicast protocol.

18. The system as defined in claim 13, wherein the means for generating a request includes a service finder.

19. The system as defined in claim 13, further including means for consolidating responses and providing the consolidated responses to the service consumer.

20. A distributed computer network for locating a remote software component comprising:

        at least one service consumer;

        at least one service provider;

        a mechanism configured to generate a request at a service consumer for an identification of a component having a least one specified attribute that describes a function performed by the component;

        a mechanism configured to broadcast the request across the network;

a mechanism configured to receive the request at a service provider;

a mechanism configured to compare the at least one specified attribute of the received request with component attributes of the service provider to identify a matching component; and

a mechanism configured to communicate a response by the service provider to the requesting service consumer, wherein the response indicates an identification of the requested component associated with the service provider.

21. In a distributed computer network having at least one service consumer and at least one service provider, a method for locating remote software components by a service consumer comprising:

generating a request for an identification of a component having at least one specified attribute that describes a service performed by the component;

broadcasting the request across the network;

receiving the request at each of a plurality of service providers on the network;

comparing, at each of the plurality of service providers, the at least one specified attribute of the received request with component attributes of the service provider to identify a matching component; and

communicating, from each of the plurality of service providers, a response to the requesting service consumer, wherein the response indicates an identification of the requested component associated with the service provider.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.